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The Impact of International Baccalaureate (IB) Courses: Experience and Outcome Differences for Full IB Diploma Earners Versus Nondiploma Earners in an Urban School in the United States

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Abstract

This study examines differences in educational experiences and outcomes for high school (HS) students who participated in the International Baccalaureate (IB) Diploma Program and earned full diplomas compared to those who participated in the IB Diploma Program but did not earn the diploma. ACT scores, after-HS placement, and HS graduation rates of 256 participants were collected. One hundred and twenty two participants completed an online survey, and 12 participated in interviews. The results revealed that the educational outcomes and experiences for diploma and nondiploma earners were vastly similar. Diploma earners had significantly higher ACT scores, but their college entrance and other academic outcomes were similar to nondiploma earners. However, students who participated in the IB program had significantly higher academic success than other students. Even students who did not earn the full IB diploma had higher graduation rates and high average ACT scores than students at this school, state, and even at the federal level.

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The International Baccalaureate (IB) Full Diploma Program (DP) offers two paths for students to participate in the program. The certificate program allows students to choose à la carte IB courses during their junior and/or senior years of high school. The Full DP is also for students' junior and senior years of high school but requires students to complete IB courses in each of the six subject groups (studies in language and literature, language acquisition, individuals and societies, sciences, mathematics, and the arts/electives) with three of those courses at the higher level and three at the standard level. In addition, Full Diploma candidates must also participate in the Theory of Knowledge course, write a 4,000-word extended essay on a topic of the student's choice, and complete, document, and reflect on self-directed creativity, activity, and service (CAS) oriented experiences.

The students who decide to pursue the Full DP commit to participating in the 2-year program without any guarantee of earning the prestigious IB Diploma. To earn the Full Diploma, students must meet a series of requirement thresholds set by the International Baccalaureate Organization (IBO, n.d.). Students are assessed in each subject area and are awarded points on a seven-point scale for each course. To earn the diploma, students must earn a total of 24 points without earning a score of one in any subject, more than three twos, or a grade below three more than four times. Students must earn at least 12 points in the higher-level subjects and nine or more in standard-level subjects. They also must complete their CAS requirements and not receive a failing mark for the theory of knowledge course or their extended essay.

Even though there are some studies on IB programs, there is a lack of research in understanding the experiences of students who did not earn Full Diplomas. The following three research questions guided our attempt to examine the experiences of students from low socioeconomic status studying at an urban high school in a Midwestern state in the Full IB DP: (1) What are the differences in educational experiences and outcomes, if any, for high school students who participated in the IB DP and earned the Full IB Diploma versus those who participated in the Full IB DP and did not earn the diploma? (2) Does participation in Full IB impact other college admissions factors, like students' high school graduation rates, ACT scores, or their ability to attend a 4-year university? (3) What value (if any) do students who do not earn the Full IB Diploma get from the program?

Ultimately, the research seeks to investigate the differences in educational experiences and outcomes, if any, for high school students who participated in the IB program and earned the Full IB Diploma versus those who participated in the Full IB program and did not earn the diploma. Research that examines the experiences and perceptions of nondiploma earners is sparse, and examining the experiences of these students will provide a better opportunity to examine the impact of IB programs on student learning.

Literature Review

Demographic Information of IB Program Students

IBO releases data for each exam cycle, providing insight into candidates earning the diploma. According to the data made available by IB for the May 2019 exam session, 77.81% of the 86,826 students worldwide successfully earned the Full IB Diploma (IBO, 2019). However, a deeper examination of the available statistics reveals disparities in who is and is not earning the diploma. IB provides data on a regional basis, breaking the world into three regions: IB Americas, IB Africa, Europe, and Middle East (IBAEM), and IB Asia-Pacific (IBAP). While the Americas region makes up 66.14% of the diploma candidates, they only accounted for 41% of those who earned the diploma. Conversely, IBAEM made up 22.03% of the candidates and received 36.4% of the diplomas, and IBAP accounted for 11.83% of the candidates but earned 22.2% of the diplomas (IBO, 2019).

Aside from the Full Diploma rate, another characteristic that differentiates these regions is the percentage of the schools that offer the DP and those schools' public or private status. In the Americas, 65% of the DPs are in public high schools. In IBAEM, that number is 28%, and in IBAP, 11% of DPs are in a public school setting (IBO, n.d.). Thus, there does appear to be a correlation between school status and the percentage of candidates earning the diploma. Most schools offering the IB outside of the Americas are private or located in affluent neighborhoods (Dickson et al., 2018), and the parents would want their children to come out with the Full Diploma as they pay for their students' education (Nata et al., 2014; Neves et al., 2017). The data indicates that students in the Americas who primarily attend public high schools earn the diploma at a lower rate than students in other regions of the world.

While the DP has grown in popularity, only a few studies have examined the outcomes of students who participate in the program but do not earn the Full Diploma (Suldo et al., 2018). According to data collected from more than 2,000 students, Suldo et al. (2018) suggested malleable factors that can help students in IB and AP programs to be successful and provide methods of coping, such as specific "interventions designed to increase cognitive and affective engagement" (p. 369) for the academic and emotional success in IB and AP programs. Based on the lower diploma pass rates in the Americas region, there are tens of thousands of students each year who complete the program but do not earn the diploma in the Americas alone (Alderson, 2023; Suldo et al., 2018). Therefore, understanding the educational experiences and outcomes of DP participants who did not earn the diploma is important.

History of IB Programs

After its inception in 1968, IB's initial growth was slow. It took 14 years for the program to reach the first 100 schools and another 8 years to pass 500 in 1994 (Bunnell, 2008). By 2001, IB surpassed 1,000 IB schools (IBO, 2017). In the

decades that have followed, IB's footprint in education has exploded. There were 2,000 IB schools by 2008, 3,000 by 2011, and 4,000 by 2015 (IBO, 2017). This growth has continued, with IB indicating that "between 2016 and 2020, the number of IB programs offered worldwide has grown by 33.3%" (IBO, 2021). As of June 2021, IB boasts 7,400 programs offered at over 5,500 schools in 159 countries. This recent growth in schools offering IB has coincided with the percentage of students who attempted and earned the Full IB Diploma but conflicted with the diploma earning rate, which dropped every year from 2015 to 2019. In 2015, 80.82% of students who attempted the Full IB Diploma were successful. With gradual drops each year, by 2019, that number bottomed out at 77.81% (IBO, 2019). With the number of IB students increasing and the diploma pass rate dropping, tens of thousands of students participate in the Full IB program but do not earn the prestigious diploma. Inexperienced IB teachers, ill-prepared schools, and unqualified students participating in the program all explain the recent downward trend in diploma pass rates (Aldana et al., 2019). There is limited research on IB in general (Tung & Stahl, 2018); however, studies examining the outcomes of these students who participate but do not earn the Full Diploma are seemingly nonexistent. As the IB presumably continues to grow, it will be important to understand the nondiploma-earning student population and how their experience and outcomes compare to students who earn the Full IB Diploma.

With the growth of IB, there has also been an intentional shift in the populations participating in the program. That shift has moved from being primarily Eurocentric in its beginnings to now being Americas-centric (IBO, 2019). This has also led to a shift toward public/state-funded schools, overtaking private schools as the leading participants in IB programming. Thus, the students participating in the program have changed as well. In 2005, Mayer (2008) interviewed a former IB North America (IBNA, now IB Americas) executive officer, who stated that one of the goals of IBNA was to expand access to IB to underrepresented students, stating,

> These efforts will be the best response to the charge of elitism that is leveled against IB programs. IB is unapologetic about creating and maintaining high academic standards for all its academic programs, but it insists that these programs should be available to all students who seek the challenge of educational excellence. (pp. 210–211)

The former director-general of IB, George Walker, echoed these sentiments, "solving the problem of access to a wider, less privileged socioeconomic group of students remains one of the IB's greatest challenges" (Perna et al., 2015, p. 405). Perna et al. (2015) examined the opportunities for underserved communities to participate in the DP from 1995 to 2009. They concluded that DP was offered in more diverse schools during this timeframe. However, Black, Hispanic, and low-income students proportionally were still participating in the program at a lower rate than their counterparts from advantaged backgrounds within these schools. This indicates some degree of success for IB in growing their offerings to more diverse schools but failure at the

school level to promote and recruit diverse students to their specific school's IB program.

In their literature review on IB programs and academic success, Dickson et al. (2018) found that IB programs provide

> a rigorous, student-centered and inquiry-based learning framework that develops students' critical thinking and analytical skills as well as content mastery across a broad range of interconnected disciplines… our review suggests that IB programmes have great potential to develop the knowledge, skills and attitudes related to 21st century. (pp. 253–254)

Knowing the benefits of IB to student experiences and outcomes, business and nonprofit organizations pledged to attempt to close the opportunity gap. These leaders donated $100 million to support 100,000 low-income students' participation in Advanced Placement and IB courses for 3 years (Clemmitt, 2009). Thier and Beach (2021) concluded that IB access in the United States was directly tied to proximity to urban areas. These findings reveal that those students in remote areas, regardless of their socioeconomic status, have less access to the DP.

Even if a student's high school offers the DP, other barriers beyond program access could inhibit student participation in the program. The DP comes with a cost, and while many schools cover the cost or subsidize a portion, some do not. Exams cost $119 per course; for a student participating in the Full DP, that leaves them at a cost of $714. It could be argued that this cost is minuscule compared to the potential payoff of college credit hours (Grose & Sanchez, 2021). However, despite its growing popularity, many universities still do not award equitable credit for IB course scores, especially compared to credits awarded for AP scores (Donahue, 2016). Family influences might also play a role in students choosing to participate in IB or not. The student's parents' education, involvement in school, knowledge of the program, and student expectations could potentially play a role in an individual student's decision to pursue the Full IB Diploma (May et al., 2013).

There is a wealth of documented research on the motivations of students pursuing the Full IB DP (Grose & Sanchez, 2021; Park et al., 2014). Grose and Sanchez (2021) concluded that acceptance into college, competitiveness for college admissions, college preparation, and college-level rigor were motivating factors for the students choosing IB, but ultimately, the study found that college preparation was the primary motivator for student participation in the program. Park et al. (2014) identified the prestige of being part of the Full IB program as a more significant motivator of student participation than potential postsecondary rewards from success within the program. Yaffe's (2014) findings indicate that university administrations state that high-level programs have benefits beyond possible college credit, including exposing students to challenging ideas and surrounding them with highly motivated peers. He talked with a Wisconsin school district representative, who called IB "the gold standard" for college preparation, requiring students to complete in-depth research and writing (Yaffe, 2014, p. 52). Aside from scholarships and potentially higher college acceptance rates, all other intangible benefits students experience in the

Full IB DP seemingly would apply equally to those who earn the diploma versus those who do not.

Even though the benefits of the IB programs have been documented by research, several schools cannot offer or sustain their IB programs since they can be very costly (Resnik, 2015) or require teachers to spend a lot of time on curriculum development and providing feedback to the students (Dickson et al., 2018). In addition, IB programs may cause increased stress to the students due to the rigorous curriculum (Suldo et al., 2018), an increase in workload for teachers, and issues in aligning the IB curriculum with national standards (Dickson et al., 2018).

Theoretical Framework

Critical Race Theory (CRT) examines the "unequal and unjust distribution of power and resources along political, economic, racial, and gender lines" (Taylor, 2009, p. 1). CRT emerged in the 1970s as subtler (less overt than previously) forms of racism emerged following the civil rights era of the 1960s (Delgado et al., 2017). The original focus of CRT was on the law, but its ideas spread to many other disciplines, including education. Today, CRT provides a framework with which to understand a multitude of educational issues, including discipline, affirmative action, high-stakes testing, controversy over curriculum and history, bilingual and multicultural education, alternative and charter schools, Anglocentric curriculum, and "deficit theory" in teaching minority students (Delgado et al., 2017, p. 7). For this research, the CRT framework applies to IB assessments (high stakes testing) and the opportunity of an IB education afforded to students at an urban high school (with a low socioeconomic student population), and this opportunity's impact, regardless of student success on IB assessments, measured by earning the Full IB Diploma or not. Within the CRT framework is the issue of unequal distribution of resources, which is observable throughout the existence of the IB program as its implementation worldwide is still largely within private schools. Whereas, in the IB Americas region, IB programs are mostly in public schools. While IB has made intentional strides to be more inclusive, the data indicates that the program needs further progress in providing equitable IB education opportunities. This identifiable opportunity gap for an IB education is a specific component of CRT in education.

The first documented appearance of the existence of this gap came in reaction to the Civil Rights Act of 1964 when Congress commissioned the Equality of Educational Opportunity Study (Hill, 2018). The over 700-page study became known as the Coleman Report, named after the study lead, Dr. James Coleman. The study examined the relationship between students' achievement, the kinds of schools they attended, and the resources those schools offered (US Department of Health, Education & Welfare: Office of Education, 1966). This framework by Coleman became known as the achievement gap. This gap appears in grades, standardized test scores, course selection, dropout rates, college graduation rates, and other measures. Typically, the achievement gap describes the educational performance gaps between African-American and Hispanic students and White students. There is also an economic component to the

achievement gap, comparing the disparity in outcomes of students from low-income families and those with a high socioeconomic standing (Ladson-Billing, 2021). For this research, the school's socioeconomic status was used to define its relationship to the gap. Recently, there has been a shift in nomenclature from referring to this deficit as an achievement gap to an opportunity gap. This shift in verbiage places the responsibility for the gap on the societal structures that created the environment for the gap to exist. Circumstances such as race, ethnicity, zip code, and socioeconomic status dictate the opportunities students have (Mooney, 2018). Thus, referencing the differences in the educational outcomes as an opportunity gap instead of an achievement gap accurately places responsibility for the lack of achievement on the inequitable systems rather than the student.

Applicability of the Opportunity Gap to the International Baccalaureate Diploma Program

Examining the IB DP through the opportunity gap lens is relevant as the IB is seemingly aware of this issue and has attempted to make strides to be more inclusive (Perna et al., 2015). As a program whose inception was intended to educate the elite, IB's strong push into the Americas, specifically public schools, has put it on a path different from its previous trajectory. As the program evolved in its early years, it did so with a primarily white, Euro-centric, private school push. In the 1990s, there was a slow change in growth in the Americas, including public schools. IB has continued that movement, and as a result, a higher rate of public schools is offering the IB program than ever before. The IB does not provide specific student demographic data regarding race and ethnicity. They publish statistical reports that break down the students who succeed in the IB program (earn the Full IB Diploma) versus those who do not. The data indicate that a higher percentage of students in the IB Americas region participate in the program and do not earn the Full IB Diploma (IBO, 2019). This is also the region where IB has a larger public school presence, with 65% of IB DP Schools being public (IBO, n.d.). As a result, more students who previously fell victim to the opportunity gap can participate in the IB program; however, these students' lower rate of success in the program would indicate that gaps in accessing resources for effective program implementation continue.

Research Methods

This mixed-methods research aimed to examine the experiences and outcomes of students who participated in the Full IB DP but did not earn the diploma. Using the theoretical framework of CRT and the opportunity gap, student success in the program can be measured beyond earning (or not earning) the IB Diploma. An urban high school in a Midwestern state with a large population of students from a low socioeconomic background was the setting of the research.

Research Context

The focus of this research study was on the educational experiences and outcomes of the DP at an urban high school in a Midwestern state. This school was selected because it has one of the biggest IB programs in the state. Students can apply for the IB program on an ongoing basis. The window of focus for student participation in the DP is from 2014 to 2019. During this time frame, the school did undergo multiple changes in leadership that could have impacted the implementation and, in turn, students' experiences and outcomes of participation in the Full IB program. The school had a new principal in 2017 and again in 2018. There was a change in the IB coordinator in 2018, as well as numerous changes in teaching staff within the IB program. The decision was made to omit 2020 and 2021 from the study as IB modified the assessment and diploma awarding structure for these years due to the COVID-19 pandemic.

One hundred percent of the school district's students qualify for free breakfasts and lunch. We do not have access to the student demographics in the IB program between 2014 and 2019; however, we have data on total school enrollment. The majority of the students were Black and Hispanic over this period (Table 1).

Participants

From 2014 to 2019, 256 students at this urban high school participated in and completed the IB DP during their junior and senior high school years. All 256 diploma program candidates' IB results were used as data for the research. Among all participants, 11.7% ($n = 30$) of the students completed IB in 2014, 12.5% ($n = 32$) in 2015, 23% ($n = 59$) in 2016, 19.9% ($n = 51$) in 2017, 19.9% ($n = 51$) in 2018, and 12.8% ($n = 33$) in 2019. When data was collected 71.8% ($n = 184$) of the participants did not graduate college yet, and 28.15% ($n = 72$) graduated from college (Table 2).

However, of the 256, 122 Full Diploma candidates responded and provided additional insights by completing the study survey. Of these 122 responding candidates, 42 earned the Full IB Diploma, and 80 respondents did not earn the full IB diploma.

Table 1. Student Demographics.

	2014	2015	2016	2017	2018	2019
Total enrollment	896	836	951	1022	1043	773
American Indian/Alaska Native (%)	*	*	*	*	*	*
Asian (%)	6.60	6.00	6.40	6.30	7.90	6.30
Black (%)	52.20	49.50	46.20	41.70	37.90	39.20
Hawaiian/Pacific Islander (%)	*	*	*	*	*	*
Hispanic (%)	28.60	30.50	30.70	32.20	35.00	32.70
Multirace (%)	1.50	1.40	1.80	2.70	3.40	3.00
White (%)	10.90	12.30	14.50	16.70	15.30	17.90
Free/Reduced Lunch (FTE) (%)	71.8	100.0	100.0	100.0	100.0	100.0

Table 2. ACT Score Comparison of Diploma Earners and Nondiploma Earners.

	Earned full diploma (2/1)	N	Mean	Standard deviation	Standard error mean
ACT composite	Nondiploma earners	79	23.48	3.366	.379
	Diploma earners	42	27.55	4.380	.676

Thus, of the respondents, 34.4% earned the Full Diploma. This is a slightly higher rate than the total number of candidates who earned the diploma from 2014 to 2019; during this timeframe, 66 of the 256 (25.8%) students who attempted the Full IB Diploma earned it. Thus, the overall demographic of respondents is skewed slightly in favor of diploma earners compared to the overall diploma pass rate of all 256 IB Diploma participants during this time. From those who completed surveys, we followed up with 12 and conducted interviews with these former DP candidates. Half of the interviews were conducted with students who earned the Full IB Diploma, and the other half were students who participated in the DP but did not earn the diploma.

Data Collection

Both quantitative and qualitative data were collected for this study. We received the IRB approval to collect data for this study. Quantitative data on all 256 students who participated in the DP from 2014 to 2019 were provided by the school. This data included ACT scores, after high school placement, and high school graduation rates. Also, 256 students who participated in the DP were sent surveys via email by the researcher and were asked to complete the human participation form and the survey. The school kept the email addresses of the students. Microsoft Forms® was used to collect survey data. The survey questions were developed according to the research questions. A total of 122 participants completed them. The survey contained six Likert-scale prompts about the IB program and the students' perceptions of DP's impact on their future (see Appendix A).

Twelve survey respondents who expressed a willingness to participate in a follow-up interview were randomly selected. Six of those students selected to be interviewed did not earn the Full IB Diploma, while six did earn the Full IB Diploma. All the interviews were conducted online through Zoom, and no additional interviews or follow ups took place. The interviews were semistructured and centered on five questions designed to provide insight into the research questions and follow-up questions were asked when appropriate during the interviews (see Appendix B). These follow-up questions were asked to better understand the interviewee's response and took place within the flow of the discussion. The interviews each lasted around 20 min. The interviews were transcribed using Otter.ai software, and we used an audio recording of the interviews to correct any errors made by the transcription software. Using a content analysis approach, themes emerged from the qualitative data collected through the interviews. Only one of the researchers interviewed the students. He served as the

IB program director, and students felt familiar with him. Since all of the students already graduated from the program, there were no concerns about coercion. The second researcher, who did not know the students, analyzed the data to avoid biases and increase interpersonal reliability.

Results

Quantitative Results

This study explored the educational outcomes and experiences of students who participated in the Full IB DP at a Midwestern urban high school from 2014 to 2019. For the Full IB program at this specific school, data points of ACT scores, graduation rates, postsecondary paths, and Full Diploma participant feedback make it evident that the educational outcomes and experiences for diploma and nondiploma earners are vastly more similar than they are different.

The data analysis of the composite ACT scores revealed a significant difference for diploma earners ($M = 27.55$, $SD = 4.38$) versus nondiploma earners ($M = 23.48$, $SD = 3.36$), t (−5, 68), p (<.001).

Over this same time frame, the mean ACT score of both diploma earners and nondiploma earners was higher than the national and state means (ACT, 2020; see Figure 1).

The independent t-test scores have shown that the differences in the ACT mean scores were statistically significant (see Table 3).

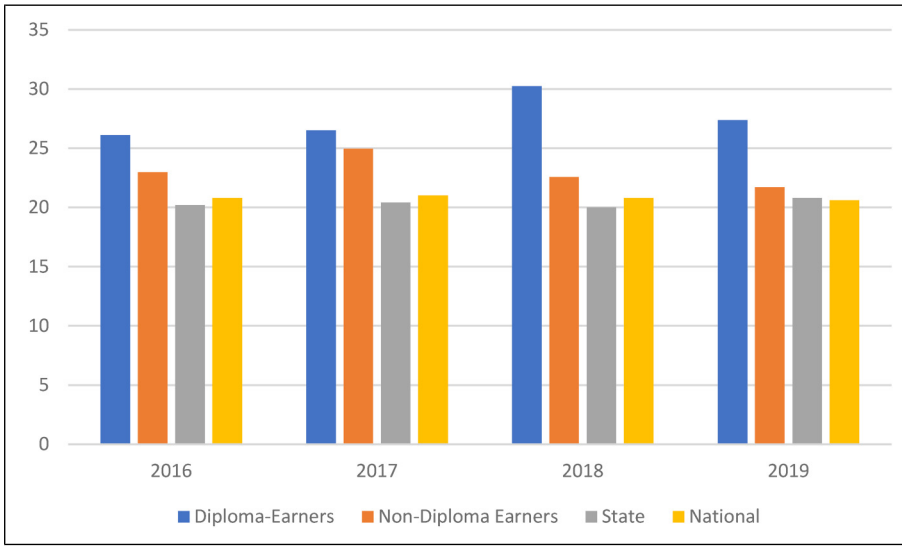

Figure 1. ACT mean score comparison of International Baccalaureate (IB) program participants to national and state ACT score means.

Table 3. Independent t-test Comparison of the ACT Scores of International Baccalaureate Students Compared to National and State Averages.

			Significance			95% Confidence interval of the difference	
	t	df	One-sided *p*	Two-sided *p*	Mean difference	Lower	Upper
Diploma earners	29.595	3	<.001	<.001	27.54500	24.5830	30.5070
National	254.747	3	<.001	<.001	20.80000	20.5402	21.0598
Diploma earners	29.595	3	<.001	<.001	27.54500	24.5830	30.5070
State	119.157	3	<.001	<.001	20.35000	19.8065	20.8935
Nondiploma earners	33.606	3	<.001	<.001	23.04750	20.8649	25.2301
National	254.747	3	<.001	<.001	20.80000	20.5402	21.0598
Nondiploma earners	33.606	3	<.001	<.001	23.04750	20.8649	25.2301
State	119.157	3	<.001	<.001	20.35000	19.8065	20.8935

Thus, while diploma earners outperformed nondiploma earners, those nonearners outperformed high school students in the state ($p \leq .001$) and the nation ($p \leq .001$). The difference in the ACT scores was significantly higher than the state and national averages. It can then be reasoned that while it may not be at quite the same level, nondiploma earners' ACT scores are positively impacted by their participation in the Full IB program.

There was not a significant difference between the graduation rates of diploma earners ($M = 0.98$, $SD = 0$) and nondiploma earners ($M = 1$, $SD = .15$) since all of the students graduated high school ($p = .171$). The highest US high school graduation from 2014 to 2019 took place during the 2018 to 2019 school year and was 86% (National Center for Education Statistics [NCES], 2021b). The state's graduation rate was 89.58% in 2019 (DESE, 2022). The focus school's graduation rate fluctuated from 2014 to 2019 from 98.51% to 100%. Of the students who participated in the Full IB DP, both diploma earners and nondiploma earners, 100% graduated from high school in every year cohort (see Figure 2). This is above both the state and federal graduation rates. This indicates that the strong graduation rates could be attributed as much to the school as they are to the student's participation in the Full IB DP; thus, there is not a substantial amount of information to be gleaned on the different educational outcomes between diploma and nondiploma earners in regard to high school graduation rates.

From 2010 to 2019 in the United States, recent high school graduates' immediate college enrollment rate hovered around 66%, with 44% of students enrolling at 4-year institutions and 22% enrolling at 2-year colleges (NCES, 2021a, 2021b). The college enrollment of high school graduates in the state is lower than that of the national average, at 59% in 2018 (NCES, 2022). For participants in the DP at the school of focus, 97.6% of diploma earners attended college immediately after high school, and 96.3% of nondiploma earners. There was a slight difference in the college entrance rates. All the diploma earners

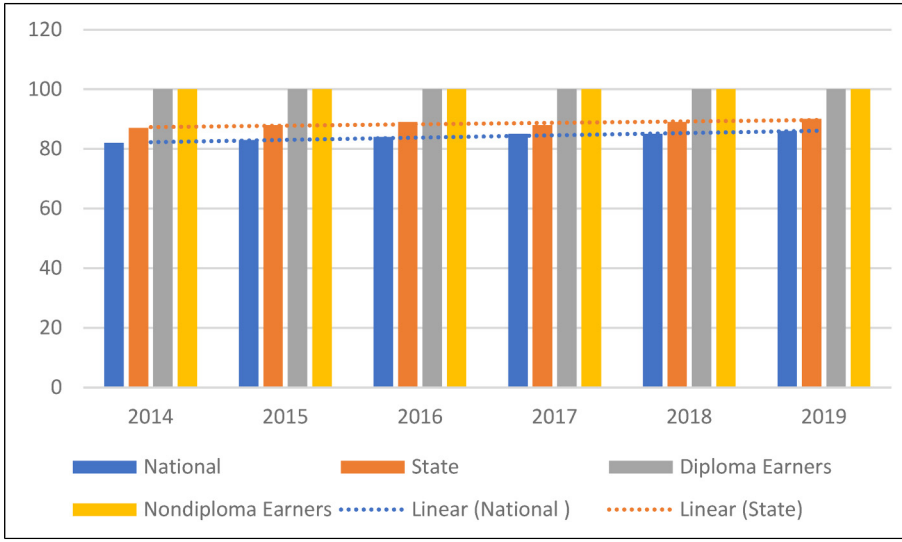

Figure 2. High school graduation comparison of International Baccalaureate (IB) program participants to national and state high-school graduation rates 2014 to 2019.

who attended college did so at a 4-year college, while 75% of nondiploma earners participated at a 4-year college, meaning 21.3% attended a 2-year school. Similarly, in the ACT results, diploma earners' postsecondary paths outpace nondiploma earners. However, both diploma earners and nondiploma earners outperformed the general population's metrics compared to the state and national levels.

The participants' responses to the survey and interview questions provided valuable feedback on the students' perspectives of the outcomes and experiences they had as participants in the Full DP. For both diploma earners and nonearners, the Likert-scale survey responses indicated an overwhelmingly positive perception of the student experiences and outcomes during their participation in the Full DP (see Table 4). Both groups felt that IB helped prepare them for college, improved their critical thinking skills and time management skills, and put them in a better position for college than their non-Full IB peers. The only outcome that did not have a majority positive response rate was the role that nondiploma earners felt participating in Full IB played in their university acceptance. Only 47.6% believed their participation in Full IB played a role in their college acceptance, compared to 31.8% who felt it did not play a role, and 21.3% had a neutral stance on the query. 66.7% of diploma earners, on the other hand, indicated some degree of agreement that their participation in IB contributed to their university acceptance.

The responses indicate that the nondiploma earners as a group perceived that the Full IB program benefited their skillset and prepared them for college but did not play a role in their college acceptance.

Table 4. Survey Responses—Benefits of the Full International Baccalaureate (IB) Diploma Program.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Participating in the Full IB Diploma Program helped prepare me for college							
Diploma Earners	0%	0%	4.8%	0%	16.7%	35.7%	42.9%
Nonearners	0%	1.3%	1.3%	3.8%	27.5%	32.5%	33.8%
Participating in the Full IB Diploma Program improved my critical thinking skills							
Diploma Earners	0%	0%	4.8%	2.4%	11.9%	35.7%	45.2%
Nonearners	0%	1.3%	0%	5.0%	11.3%	46.3%	36.3%
Participating in the Full IB Diploma Program improved my time management skills							
Diploma Earners	0%	2.4%	4.8%	11.9%	38.1%	23.8%	19.0%
Nonearners	2.5%	1.3%	6.3%	12.5%	31.3%	23.8%	22.5%
Participating in the Full IB Diploma Program contributed to me being accepted to my university							
Diploma Earners	4.8%	7.1%	2.4%	19.0%	28.6%	14.3%	23.8%
Nonearners	10%	17.5%	3.8%	21.3%	18.8%	12.5%	16.3%
Participating in the Full IB Diploma Program put me in a better position than my non-IB peers for college							
Diploma Earners	2.4%	7.1%	2.4%	16.7%	16.7%	31.0%	23.8%
Nonearners	2.5%	5.0%	6.3%	21.3%	22.5%	23.8%	18.8%
If given the opportunity, I would participate in the Full IB Diploma Program again							
Diploma Earners	7.1%	2.4%	7.1%	14.3%	11.9%	23.8%	33.3%
Nonearners	7.5%	13.8%	13.8%	7.5%	17.5%	18.8%	21.3%

Qualitative Data

Using a context analysis research method for the qualitative data. Iversen (1991) states that when we have data on individuals and "data on the groups to which they belong" (p. 3), contextual analysis can provide us information on the impact of the group on people, individual and group variables, and whether these impacts are negative or positive. Since this research examines the impact of IB DP on the academic success of students, the contextual analysis method was used. The analysis of responses to the open-ended survey question of 122 respondents and the 12 interviews has revealed, both positive and negative themes emerged related to the student's perceptions of their experiences and outcomes from their participation in the Full IB DP. The most common themes that emerged after the qualitative analysis were general college preparedness, better time management and writing skills, and earned college credit. Citing all of the themes is beyond the scope of this study; only the most common themes have been reported. Overall, through these data collection methods, most students indicated that their participation in the Full IB DP proved beneficial. The most common benefits described by participants included (a) general college preparedness,

(b) better time management and writing skills, and (c) earned college credit. A student who earned her full diploma described,

> I was better prepared than most of my college peers because of the core lessons I learned from being [in] Full IB. I learned to write quality essays, give presentations, and push through rigorous courses, all of which are needed for college-level classes. (Meredith, Interview)[1]

Similar sentiments were echoed by many students who earned the Full Diploma. However, this programmatic benefit was not limited to those who did earn the Full Diploma. One nondiploma earner explained,

> I did not earn my Full IB diploma, but the program itself prepared me for the workload and the type of work I would expect in college. I feel like I was definitely given an advantage as opposed to those who did not take [Full] IB. (Angela, Interview)

These interview responses correlate with the quantitative data, where over 90% of participants from both groups indicated that IB better prepared them for college. With this research utilizing the CRT theoretical framework and, more specifically, the opportunity gap theory, it could be argued that Meredith and Angela's sentiments are supportive of the idea that IB has had some degree of success in expanding IB educational opportunities to those who in previous generations may not have had similar opportunities.

The heavy writing and critical thinking focus were specific skills that many students described as being honed by their participation in the Full IB program. A student who earned the Full Diploma explained,

> I owe my ability to write papers to this [IB] program. As a freshman in college, I was a finalist for a writing scholarship, and I owe that to the program. In college, long research papers never intimidated me due to my experience in IB. (Pam, Interview)

A nondiploma earner shared similar thoughts,

> I did not feel the same stress as many of my peers when it came to writing academic essays or completing lengthy assignments, and I was even able to use many of the strategies given by the program in multiple aspects of my university career. (Holly, Interview)

The quantitative survey results netted similar feedback, with over 90% of responses from both groups expressing that IB improved their critical thinking skills.

The prospect of earning college credit while studying in high school draws many students to the program. One student who earned the diploma was happy to earn 16 credit hours (Kevin), and another described how the credits put her in a position to earn a minor (Jan). Students who do not earn the full diploma still benefit from earning college credit on a course-by-course basis. A nondiploma earner described, "[IB] helped

me to receive college credits, so I did not have to take a history or Spanish class and started with credits which helped me to graduate college a semester early" (Phyllis, interview).

While overall, the qualitative data indicates a positive perception of the Full IB program, the student experiences and educational outcomes of both diploma and nondiploma earners identified several drawbacks of the IB program. These shortcomings can be categorized as anxiety and stress caused by the Full DP, a disparity in resources and course offerings between different schools that offer the DP, a lack of college credit earned from participation in the program, and competing curriculum options that students viewed in hindsight as a better option than Full IB.

The rigorous and unrelenting Full IB Diploma program curriculum is why it is recognized internationally for college credit and college acceptance. According to both diploma earners and nonearners, it was also the cause of a great deal of stress and anxiety. Erin, a nondiploma earner, said during the interview, "It [IB] can be a stressful program, even for people who are on top of everything they do." Jan, a diploma earner, echoed these ideas, "The IB curriculum is extremely difficult and has very high stakes. This was terrible for my anxiety. And made me feel miserable." It is worth noting that many students shared experiences relating to stress and anxiety similar to this, "The stress and difficulty of the IB program at the school prepared me to function well in college. It also gave me the right mindset to get things done on time (Dwight, interview)." So, the negative aspect of stress in high school, in many cases, led to positive student outcomes in college.

Another drawback respondents identified was the inequitable implementation of the DP at their high school compared to peers who also participated in the Full DP at different high schools. This seems to indicate that while IB has had success in expanding IB opportunities to those previously underrepresented, inequity still exists within the program as some schools lack course offerings, teaching stability, course resources (labs, technology, etc.), etc. Viewed through an opportunity gap lens, this means that a schism still exists in the educational opportunities offered within the IB DP, depending on factors outside of the student's control. A nondiploma earner highlighted this issue by lamenting,

> School of Excellence[2]'s Full IB Diploma Program, while enriching, did not prepare me for college. This feedback is not representative of the program itself - but of, at that time, School of Excellence's lack of faculty regulation… it is my belief that the high faculty turnover rate, which resulted in a lack of consistency/stability in teachers leading up to and throughout the program, inhibited a portion of students in my year from obtaining the diploma and experiencing the full benefits of the program. The impact for me was jarring; the difference between my college preparation in comparison to that of my college peers who had also participated in the Full IB Program—from the School of Excellence—was vast. (Karen, interview)

Another nondiploma earner mentioned similar sentiments, "At the time, I wished we had access to a wider variety of classes. I think the School of Excellence did the best that it could with the staff and recourses that it had (Toby, interview)." This criticism was not levied by only nonearners. A diploma earner also noted this discrepancy between IB programs at different high schools, describing,

> I am a stronger college student due to Full IB, but I realized once I met many other students in college who also participated in their own respective Full IB programs that they did things differently, and I missed out on some benefits of it, like more subjects (economics, computer science, philosophy, etc.). (Michael, interview)

The theme that emerged far and above any other in terms of negative feedback about students' experiences and outcomes in the Full IB program by both diploma and nondiploma earners was the lack of college credit the program earned the student versus what they thought the program would earn them when they first started. This coincides with another drawback: respondents often mentioned that students identified an alternative program they wish they would have participated in instead of Full IB. A diploma earner disappointedly described,

> The credit [scores] I received for the exams ultimately did not translate into college credit. I appreciated the learning experience and format, but it didn't result in any credit. I signed on to the program because I was persuaded by the idea that I would receive college credit in return for my passing my exams. I would say that was overall the only real negative to IB. (Kelly, interview)

This sentiment was echoed by a nondiploma earner who outlined, "So many benefits, but my university did not accept many of the classes as college credit as easily as those who took AP [Advanced Placement] (Jim, Interview)." The student's mention of universities having better acceptance policies for Advanced Placement (AP) exams than IB courses was a common lament.

In addition to AP, students specifically identified a program alternative to IB that they felt would have resulted in more college credit. For context, at this high school, at the end of a student's sophomore year, there were multiple curriculum paths. Those options were the Full IB DP, a trade school program, a community college partnership program, or they could pursue IB certificates in individual IB courses instead of participating in the Full DP. In hindsight, several respondents identified the community college as a path they would have preferred, as they viewed it as a greater guarantee of earning college credit. Through this program, students attended classes at a local community college instead of attending high school classes. Success in these courses resulted in high school credit and community college credit. This led to students being able to graduate high school and receive an associate's degree simultaneously. Regarding this program, a nondiploma earner laid out,

> The program that lets you attend the School of Excellence at the same time as a high school student seemed like a better choice now in hindsight because graduating, you would already be at an advantage of having 2 years of college credit and an associate's degree, which would lessen the burden of pricey college tuition since you would have a greater chance of graduating much sooner with a bachelor's degree. (Oscar, Interview)

A diploma-earning student expressed similar sentiments, stating,

> The full IB Diploma Program was useful, and the workload did show me a bit of what to expect for college. However, the School of Excellence offers something better, which is the college credit hours with the community college. If I had the choice, I would much rather take those college credit courses. (Stanley, Interview)

Unprompted, multiple student responses from both diploma-earning and nondiploma-earning students indirectly highlighted opportunity gaps, a branch of critical race theory and the theoretical framework for this study that existed in their participation in the full IB program at an urban high school. The opportunity to partake in a wider array of IB's course offerings was described as a limiting factor of one student's participation. This was echoed by multiple students who, upon interacting with Full IB students from other high schools once in college, felt that their peers' experiences differed from theirs because of a lack of resources at the urban high school they attended. Another student lamented the instability and lack of experience with IB in the teaching staff that they perceived limited the success of students in her cohort from achieving their maximum ability levels. While the majority of students, both diploma earners (69%) and nondiploma earners (57.5%), agreed that if given the opportunity, they would make the same choice to pursue the IB diploma, the lack of equitable program resources from school to school, creates an environment where the experiences of students at an urban public high school in Full IB are undoubtedly dramatically different from that of students at a private secondary institution. This discrepancy in program resources and delivery needs to be addressed for the opportunity gaps within the Full IB program to be closed.

Discussion

The results of this study align with previous research in that students agreed that the IB program provided rigorous education and provided students with postsecondary education (Grose & Sanchez, 2021; Park et al., 2014; Suldo et al., 2018; Yaffe, 2014). In addition, this study also revealed that even the students who did not earn Full IB Diploma benefitted from the program and had higher ACT scores and college acceptance rates compared to state and national averages. Participants attributed some of the benefits to the rigorous curriculum and different educational experiences they could have, such as presentations and writing opportunities. Even though this study focused on one school district, the results have shown significant academic success even for nondiploma earner students in the IB programs; therefore, we conclude that IB programs are very beneficial for students' academic success. Even though there are some concerns about the curriculums of IB programs (see Bustamante Callejas, 2024), this study shows its impact on students' success, even when students are not full diploma earners.

However, the study also revealed that there can be some discrepancies and inequalities in how the program is offered and what kind of resources students can access. These inequalities can impact the students' experiences in the IB programs. This issue is related to a bigger problem related to equal access to education: the educational

experiences of students who are even in the same school district, but different schools can be unequal (Darling-Hammond, 2013). IB program coordinators and instructors should be aware of this fact and provide support to all students.

In addition, data has revealed that IB programs, even though they proved to help student success, may not be received with the same rigor as AP programs. IB coordinators should be in contact with college admission teams to inform them about this rigorous program.

Conclusion/Implications

With the quantitative data of graduation rates, ACT scores, and postsecondary paths and the qualitative data of survey responses and interviews, all indicating positive experiences and outcomes for diploma and nondiploma earners (albeit at different levels), the research results in this Midwestern urban high school are definitive. Even if students do not earn the full IB diploma, participating in the program leads to higher graduation rates and higher average ACT scores than non-Full IB students at the same school. These students also attended college, specifically 4-year institutions, at a higher rate than the general U.S. student population. This indicates that this school should support greater participation in the Full IB program. If such a push were to take place, there would also need to be an analysis to see if there is a tipping point where school staff and resources become stretched too thin to serve the needs of larger full IB cohorts adequately. This is especially true of this specific program, as several students identified opportunity gaps in implementing the IB program at this high school. Lack of teaching stability, teaching experience within the program, limited course offerings, and minimal resources highlight some of the struggles of implementing a rigorous program like IB at an urban public high school. Students across both groups also made it clear that if IB wants to continue its upward growth trajectory in the United States and challenge the Advanced Placement Program as the most generous college credit awarding secondary school path, it must push for greater recognition for college credit at US universities. Lastly, additional studies of IB DP in schools in other regions and with different statuses (public/private) could be used to identify if the findings from this study are representative of trends impacting the majority of IB students or if each IB school is unique in the outcomes and experiences for diploma and nondiploma earners.

Limitations

Even though the sample size is big and longitudinal data was collected to increase reliability, which is one of the strengths of this research, this study focuses on one school district. Studies that focus on more than one school district would be very beneficial to provide more holistic data.

Even though this study focused on data from several years, more longitudinal studies examining the IB programs are needed to understand the impact of the IB programs on the academic success of students, both diploma and nondiploma earners.

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Notes

1. All names are pseudonyms.
2. The school's name is a pseudonym.

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Appendix A

1. Participating in the Full International Baccalaureate (IB) Diploma Program helped prepare me for college.
2. Participating in the Full IB Diploma Program improved my critical thinking skills.
3. Participating in the Full IB Diploma Program improved my time management skills.
4. Participating in the Full IB Diploma Program contributed to my being accepted to my university.
5. Participating in the Full IB Diploma Program put me in a better position than my non-IB peers for college.
6. If given the opportunity, I would participate in the Full IB Diploma Program again. These questions were followed by one open-ended question that provided the participants with the opportunity to share any thoughts that they had about their participation in the Diploma Program.
7. Any additional thoughts you would like to share about the impact the Full IB Diploma Program had on you after you left School of Excellence?

Appendix B

1. Since your participation in the Full IB Diploma Program, what have you done? University? Job? Simply explain what you have done in your time since high school.
2. Now that you are out of high school, what is your perspective on the Full IB Diploma Program? Can you explain?
3. What was the greatest benefit of your participation in the Full IB Diploma Program?
   Can you explain?
4. What was the greatest drawback of your participation in the Full IB Diploma Program? Explain.
5. If given the opportunity to go back to your sophomore year of high school, when you were given the option to pursue the Full IB Diploma Program, would you do it again?
   Why or why not? Can you explain?